AIWA®

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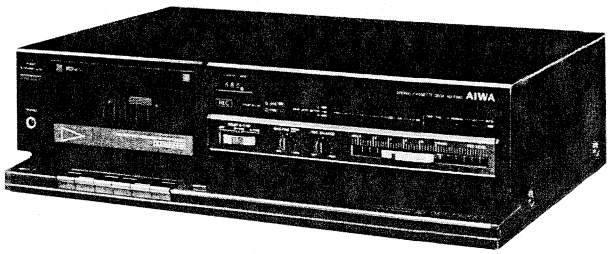
SERVICE MANUAL

MODEL NO. AD-F260, S10



■STEREO CASSETTE DECK

■TYPE. HB, UB, CB, ES, EB, KB, GB, ZS, ZB

■BASIC MECHANISM: TN-39ZF

SPECIFICATIONS

Type	Stereo cassette tape deck
Track format	4 tracks 2 channels
Power supply	AD-F260 E, Z AC 220 V, 50/60 Hz AD-F260 K, G AC 240 V, 50/60 Hz AD-S10U, AD-F260 C AC 120 V, 60 Hz AD-F260 H AC 110 V–120 V/220 V–240 V switchable, 50/60 Hz
Power consumption	10 W
Frequency response	METAL tape: 20–17,000 Hz CrO_2 position tape: 20–16,000 Hz NORMAL tape: 20–15,000 Hz
Signal-to-noise ratio	73 dB (METAL tape DOLBY C NR ON)
Wow and flutter	According to DIN 45 500 0.28% 0.09% (WRMS)
Tape speed	4.8 cm/sec. (1-7/8 ips)
Rewind time	95 sec. (C-60)
Fast forward time	95 sec. (C-60)
Recording system	AC bias (frequency 85 kHz)
Erase system	AC erase
Motor	DC Servomotor
Heads	Record/playback head ×1 Erase head ×1
Inputs	LINE IN maximum input sensitivity: 50 mV (over 50 kΩ) DIN max sensitivity (Z model only): 0.1 mV/kΩ (3.3 kΩ)
Outputs	LINE OUT standard output level: 0.40 V (0 VU); suitable load impedance: over 50 kΩ; DIN standard level (Z model only): 0.40 V (0 VU) Headphones: 32 Ω
Dimensions	420(W) ×116(H) ×278(D) mm
Weight	3.6 kg

- Design and specifications are subject to change without notice.
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AIWA Co., Ltd. Tokyo Japan

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Printed in Japan

ELECTRICAL MAIN PARTS LIST

REF.NO.	PARTS.NO.	DESCRIPTION
=== IC ===		
	87-020-694-019	IC HA12088J
	87-020-489-019	IC IR2E19
	87-020-096-019	IC M4066BP
	87-027-895-019	IC M5218L
	87-020-758-019	IC NJM2068SD
=== TRANSISTOR ===		
	89-503-735-089	FET 2SK373GR
	89-110-155-089	TRANSISTOR 2SA1015(GR)
	89-309-456-089	TRANSISTOR 2SC945L(P)
	89-318-155-089	TRANSISTOR 2SC1815(GR)
	89-320-011-089	TRANSISTOR 2SC2001K
	89-322-405-089	TRANSISTOR 2SC2240GR,BL
	89-413-023-089	TRANSISTOR 2SD1302S
	89-414-065-089	TRANSISTOR 2SD1406GR
=== MAIN CIRCUIT BOARD SECTION ===		
PCB-A	*	MAIN CIRCUIT BOARD
C101	* 87-010-389-019	CAP ELECT,2200-25 SME
C102	* 87-010-381-089	CAP ELECT 330-16 SME
C103	* 87-010-101-089	CAP ELECT 220-16
C104	* 87-010-381-089	CAP ELECT 330-16 SME
C201	* 87-010-134-089	CAP ELECT BP 4.7-35
C202	* 87-010-134-089	CAP ELECT BP 4.7-35
C205	* 87-018-035-089	CAP 180PF K 50V (B)
C206	* 87-018-035-089	CAP 180PF K 50V (B)
C209	* 87-018-039-089	CAP 390PF K 50V (B)
C210	* 87-018-039-089	CAP 390PF K 50V (B)
C215	* 87-010-404-089	CAP ELECT 4.7-50 SME
C216	* 87-010-404-089	CAP ELECT 4.7-50 SME
C302	* 87-010-406-089	CAP ELECT 22-50
C303	* 87-014-065-089	CAP PP 2200P-100
C306	* 87-018-205-089	CAP SS 0.022
C309	* 87-018-034-089	CAP 150PF K 50V (B)
C310	* 87-018-034-089	CAP 150PF K 50V (B)
C311	* 87-018-034-089	CAP 150PF K 50V (B)
C312	* 87-018-034-089	CAP 150PF K 50V (B)
C313	* 87-018-044-089	CAP 1000PF 50V (B)
C401	* 87-010-432-019	CAP ELECT,10-16 OS
C401A	* 87-010-402-089	CAP ELECT 2.2-50 SME
C402A	* 87-010-402-089	CAP ELECT 2.2-50 SME
C403	* 87-015-952-089	CAP ELECT 2.2-50
C403A	* 87-018-034-089	CAP 150PF K 50V (B)
C404	* 87-015-952-089	CAP ELECT 2.2-50
C404A	* 87-018-034-089	CAP 150PF K 50V (B)
C405	* 87-010-402-089	CAP ELECT 2.2-50 SME
C405A	* 87-018-044-089	CAP 1000PF 50V (B)
C406	* 87-010-402-089	CAP ELECT 2.2-50 SME
C406A	* 87-018-044-089	CAP 1000PF 50V (B)
C407A	* 87-018-046-019	CAP,4700P
C407	* 87-010-256-089	CAP ELECT 0.68-50
C408A	* 87-018-046-019	CAP,4700P
C408	* 87-010-256-089	CAP ELECT 0.68-50
C409	* 87-010-256-089	CAP ELECT 0.68-50
C409A	* 87-010-404-089	CAP ELECT 4.7-50 SME
C410	* 87-010-256-089	CAP ELECT 0.68-50
C410A	* 87-010-404-089	CAP ELECT 4.7-50 SME
C411	* 87-010-379-089	CAP ELECT 22-16 SME
C421	* 87-010-404-089	CAP ELECT 4.7-50 SME
C422	* 87-010-404-089	CAP ELECT 4.7-50 SME
C501	* 87-010-380-089	CAP ELECT 47-16

REF.NO.	PARTS.NO.	DESCRIPTION
C502	* 87-010-101-089	CAP ELECT 220-16
C503	* 87-010-378-019	CAP ELECT,10-16 SME
C801	* 87-010-263-089	CAP ELECT 100-10
C802	* 87-010-263-089	CAP ELECT 100-10
D101	82-526-799-089	DIODE 1N4002
D102	82-526-799-089	DIODE 1N4002
D103	82-526-799-089	DIODE 1N4002
D104	82-526-799-089	DIODE 1N4002
D105	87-027-676-089	ZENER DIODE HZ12B3L
D106	87-020-110-089	DIODE 1SS177
D109	87-020-123-089	DIODE DS446
D302	87-020-123-089	DIODE DS446
D501	87-020-110-089	DIODE 1SS177
D502	87-020-110-089	DIODE 1SS177
D503	87-020-110-089	DIODE 1SS177
D506	87-020-110-089	DIODE 1SS177
D507	87-020-110-089	DIODE 1SS177
D508	87-020-110-089	DIODE 1SS177
D510	87-027-301-089	ZENER DIODE HZ3A1
D524	87-020-110-089	DIODE 1SS177
D525	87-020-110-089	DIODE 1SS177
⚠FR101	* 87-029-361-090	RES,FUSIBLE 3.3 1/2W
L201	* 82-127-624-019	COIL TRAP 85K
L202	* 82-127-624-019	COIL TRAP 85K
L203	* 87-003-128-089	MICRO INDUCTOR 5.6UH
L204	* 87-003-128-089	MICRO INDUCTOR 5.6UH
L301	* 82-127-625-019	COIL OSC BIAS 85K
L401A	* 82-127-621-019	FILTER DOLBY 85K 2CH
L401	* 82-127-626-019	FILTER SQ 20K
L402	* 82-127-626-019	FILTER SQ 20K
L403	* 87-005-220-019	COIL 1MMH J
L404	* 87-005-220-019	COIL 1MMH J
SFR201	* 87-021-737-019	SFR 470
SFR202	* 87-021-737-019	SFR 470
SFR203	* 87-021-738-019	SFR 1K
SFR204	* 87-021-738-019	SFR 1K
SFR205	* 87-021-742-019	SFR 10K
SFR206	* 87-021-742-019	SFR 10K
SFR301	* 87-021-745-019	SFR 47KB
SFR302	* 87-021-745-019	SFR 47KB
=== FRONT CIRCUIT BOARD SECTION ===		
PCB-B	*	FRONT CIRCUIT BOARD
C501	* 87-010-379-089	CAP ELECT 22-16 SME
C502	* 87-010-379-089	CAP ELECT 22-16 SME
C503	* 87-010-379-089	CAP ELECT 22-16 SME
D501	* 87-020-679-019	LED TLR208 (PEAK LED.METER)
D502	* 87-020-679-019	LED TLR208 (PEAK LED.METER)
D503	* 87-020-679-019	LED TLR208 (PEAK LED.METER)
D504	* 87-020-679-019	LED TLR208 (PEAK LED.METER)
D505	* 87-020-679-019	LED TLR208 (PEAK LED.METER)
D506	* 87-020-679-019	LED TLR208 (PEAK LED.METER)
D507	* 87-027-679-019	LED TLR208 (C-TYPE)
D508	* 87-027-679-019	LED TLR208 (METAL)
D509	* 87-027-551-019	LED TLG208 (PEAK LED.METER)
D510	* 87-027-551-019	LED TLG208 (PEAK LED.METER)
D511	* 87-027-551-019	LED TLG208 (PEAK LED.METER)
D512	* 87-027-551-019	LED TLG208 (PEAK LED.METER)
D513	* 87-020-551-019	LED TLG208 (PEAK LED.METER)
D514	* 87-020-551-019	LED TLG208 (PEAK LED.METER)
D515	* 87-020-551-019	LED TLG208 (PEAK LED.METER)
D516	* 87-020-551-019	LED TLG208 (PEAK LED.METER)

REF.NO.	PARTS.NO.	DESCRIPTION
D517	* 87-027-551-019	LED TLG208 (PEAK LED.METER)
D518	* 87-027-551-019	LED TLG208 (PEAK LED.METER)
D519	* 87-020-551-019	LED TLG208 (B-TYPE)
D520	* 87-020-551-019	LED TLG208 (NORMAL)
D521	* 87-020-765-019	LED TLY208 (CO)
D523	* 87-020-142-019	LED SLP984A-51 (REC)
S501	87-031-807-019	SLIDE SW (DOLBY B-C NR)
VR501	82-199-632-019	VOLUME 250KW (REC BALANCE)
VR502	82-127-623-019	VOLUME 50KA (REC LEVEL)
VR503	82-197-632-019	VOLUME 50KB (BIAS FINE)
	=== JACK CIRCUIT BOARD SECTION ===	
PCB-C	*	JACK CIRCUIT BOARD
C701	* 87-018-047-089	CAP 0.01-16 (Y)
J701	87-049-464-019	JACK (PHONES)
S701	87-031-805-019	PUSH SW (POWER)
	=== SWITCH CIRCUIT BOARD SECTION ===	
PCB-D	*	SWITCH CIRCUIT BOARD
S702	86-992-604-019	TACT SW (REC MUTE)
	=== PIN JACK CIRCUIT BOARD SECTION ===	
PCB-E	*	PIN JACK CIRCUIT BOARD
P701	87-049-055-010	PIN JACK,4P (LINE IN/REC,LINE OUT/PLAY)
	=== DIN CIRCUIT BOARD SECTION (Z ONLY) ===	
PCB-F	*	DIN CIRCUIT BOARD
C703	* 87-010-378-089	CAP ELECT 10-16 SME
C704	* 87-010-378-089	CAP ELECT 10-16 SME
C705	* 87-010-260-089	CAP ELECT 47-25
C707	* 87-010-401-089	CAP ELECT 1-50
C708	* 87-010-401-089	CAP ELECT 1-50
C709	* 87-018-012-089	CAP 15PF J 50V SL
C710	* 87-018-012-089	CAP 15PF J 50V SL
C711	* 87-018-040-089	CAP 470PF 50V (B)
C712	* 87-018-040-089	CAP 470PF 50V (B)
D701	87-020-123-089	DIODE DS446
J702	87-049-079-019	DIN JACK 5P (REC/PB)
RY701	* 87-045-237-010	RELAY GSA237P 12VDC
S703	87-031-752-019	SLIDE SW (INPUT SELECTOR)
	=== TERMINAL CIRCUIT BOARD SECTION === (E,K,Z,G, ONLY)	
⚠PCB-G	*	TERMINAL CIRCUIT BOARD
	=== MISCELLANEOUS ===	
⚠	* 87-085-184-010	AC CORD BUSHING (H,U,C ONLY)
⚠	* 87-085-185-010	AC CORD BUSHING (E,K,Z,G ONLY)
⚠	87-033-140-010	SPLICE CONNECTOR (H,U,C ONLY)
⚠	* 87-034-732-010	AC CORD (H ONLY)
⚠	* 87-034-578-010	AC CORD (U,C ONLY)
⚠	* 82-187-797-019	AC CORD (E,Z ONLY)
⚠	* 82-187-796-019	AC CORD (K ONLY)
⚠	* 82-187-795-019	AC CORD (G ONLY)
CON301	* 82-127-656-019	CONNECTOR ASSY 8P PRH40
EH	* 87-046-196-010	ERASE HEAD
M101	S1-820-133-200	MOTOR ASSY
M101	S1-820-133-060	MOTOR ASSY
RPH	87-046-226-010	RP HEAD

REF.NO.	PARTS.NO.	DESCRIPTION
S101	S6-401-016-600	LEAF SW (MOTOR)
S102	82-127-640-010	LEAF SW (REC)
S103	82-127-228-010	LEAF SW (PAUSE)
S104	81-533-370-010	LEAF SW (MUTE)
S105	S6-401-013-800	LEAF SW (FR)
S106	S6-401-017-300	LEAF SW (MT)
S107	S6-401-017-300	LEAF SW (CO)
⚠S702	87-031-027-019	ROTARY SW (VOLTAGE SELECTOR) (H ONLY)
⚠T1	82-127-611-019	POWER TRANSFORMER (H ONLY)
⚠T1	82-127-612-019	POWER TRANSFORMER (U ONLY)
⚠T1	82-127-614-019	POWER TRANSFORMER (K,G ONLY)
⚠T1	82-127-615-019	POWER TRANSFORMER (C ONLY)
⚠T1	82-127-613-019	POWER TRANSFORMER (E,Z ONLY)

Combination circuit board A 82-127-601-019

PCB-A 82-127-602-019

PCB-B 82-127-604-019

PCB-C 82-127-603-019

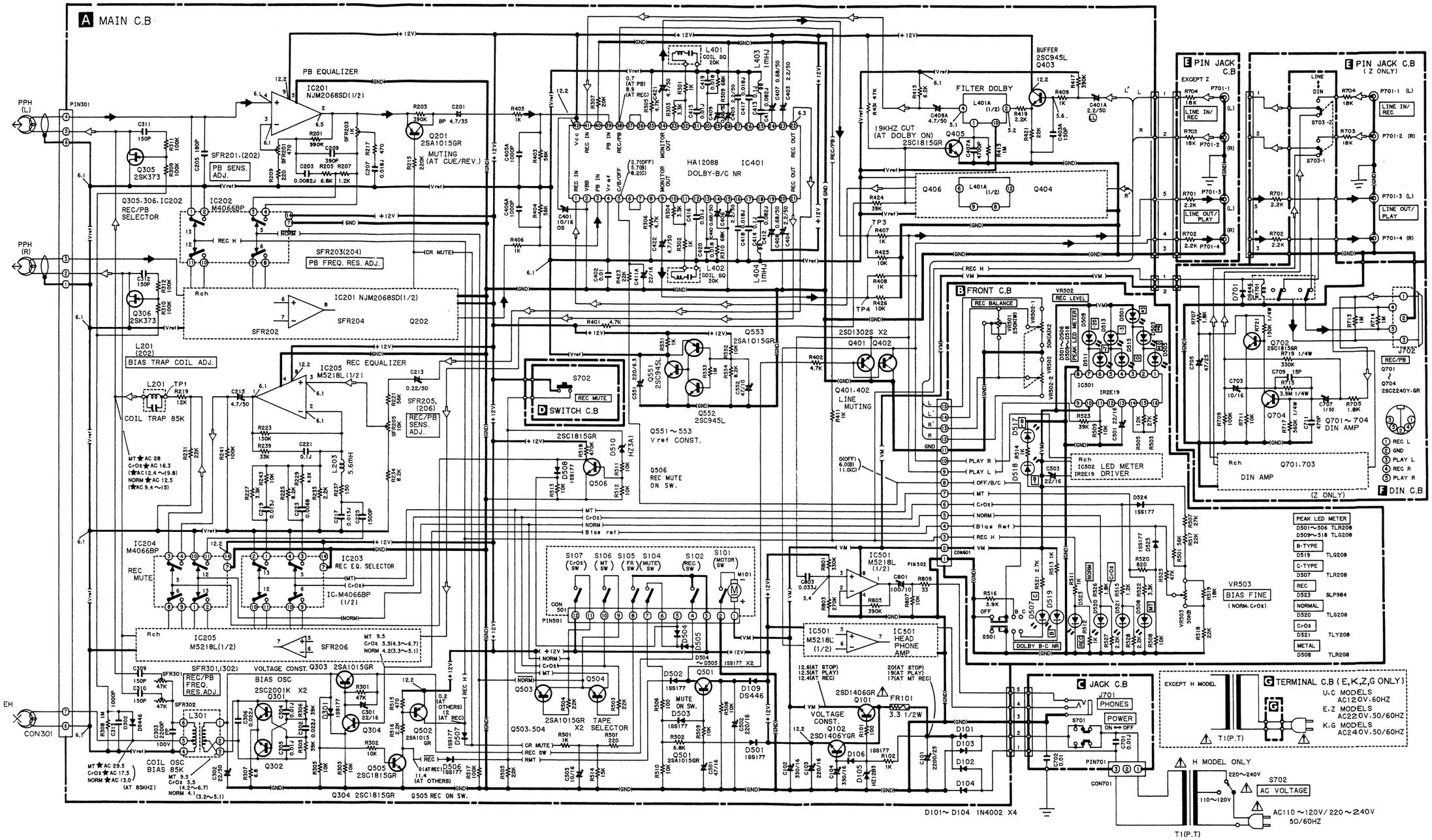
PCB-D 82-127-605-019

PCB-E 82-127-606-019

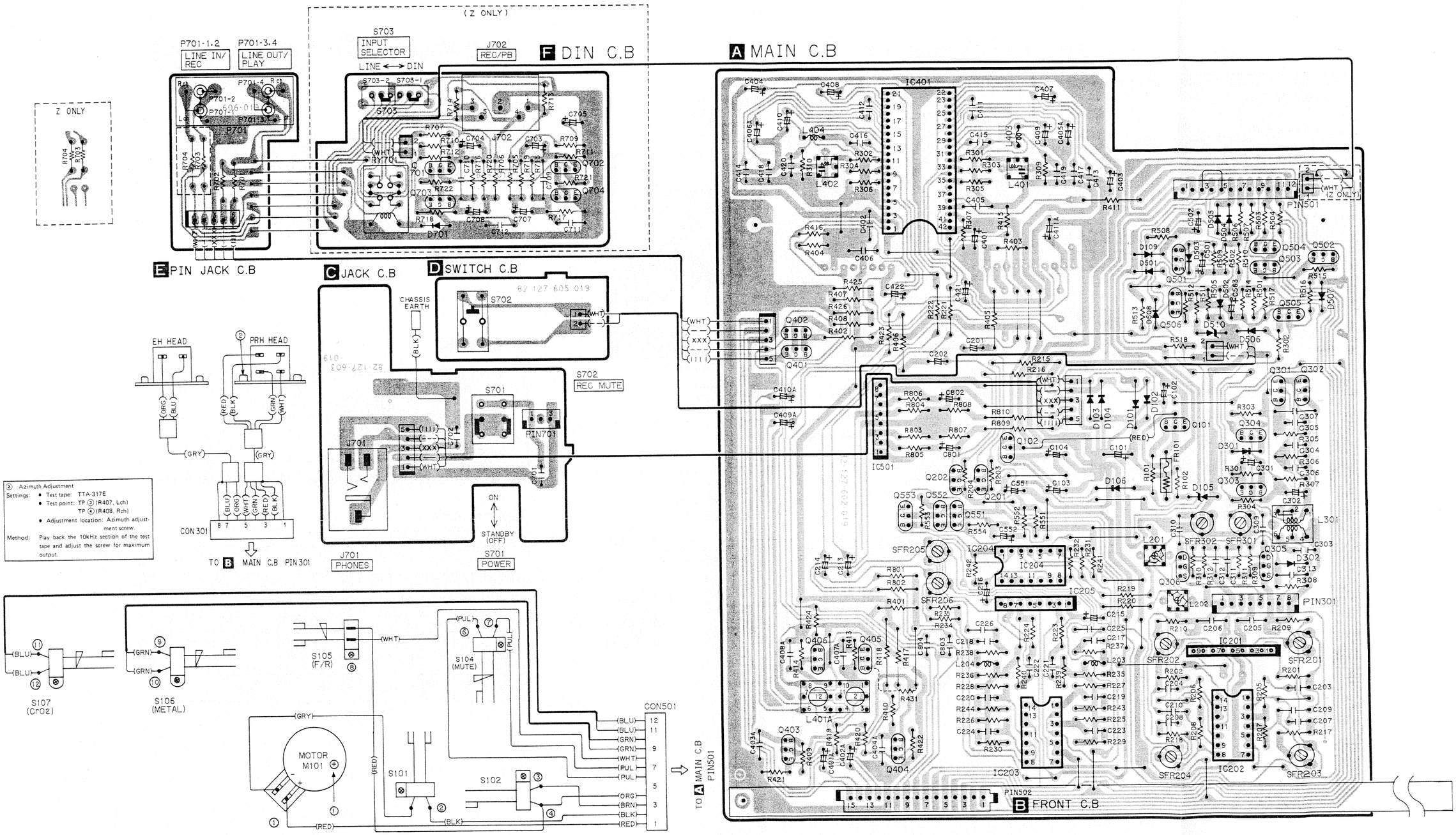
PCB-F 82-127-608-019(Z ONLY)

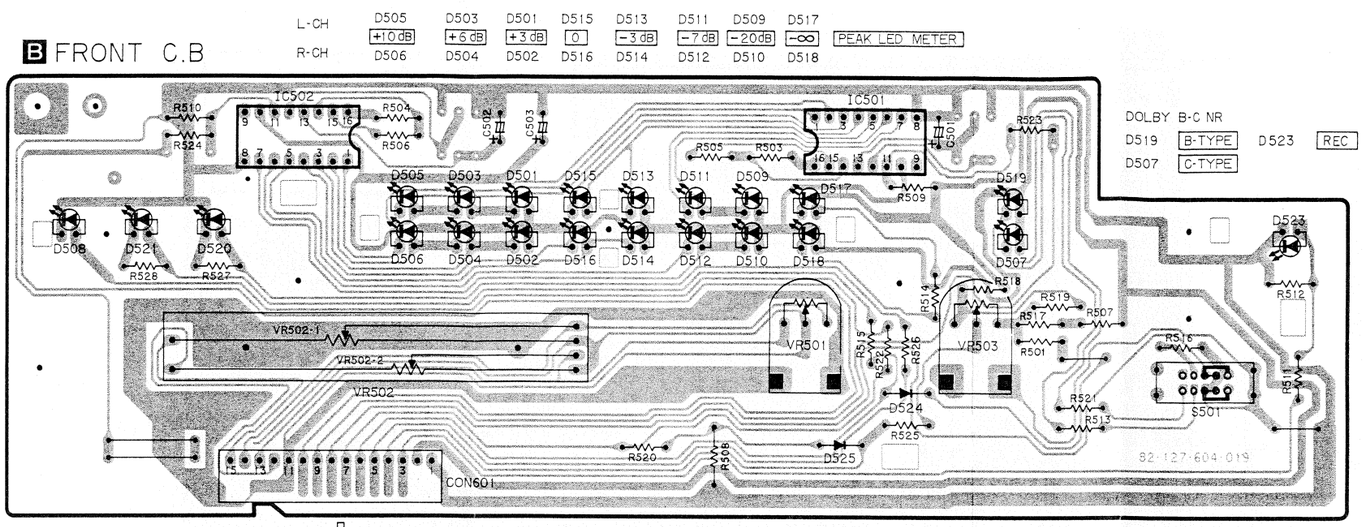
PCB-G 82-127-607-019(E,K,G,Z ONLY)

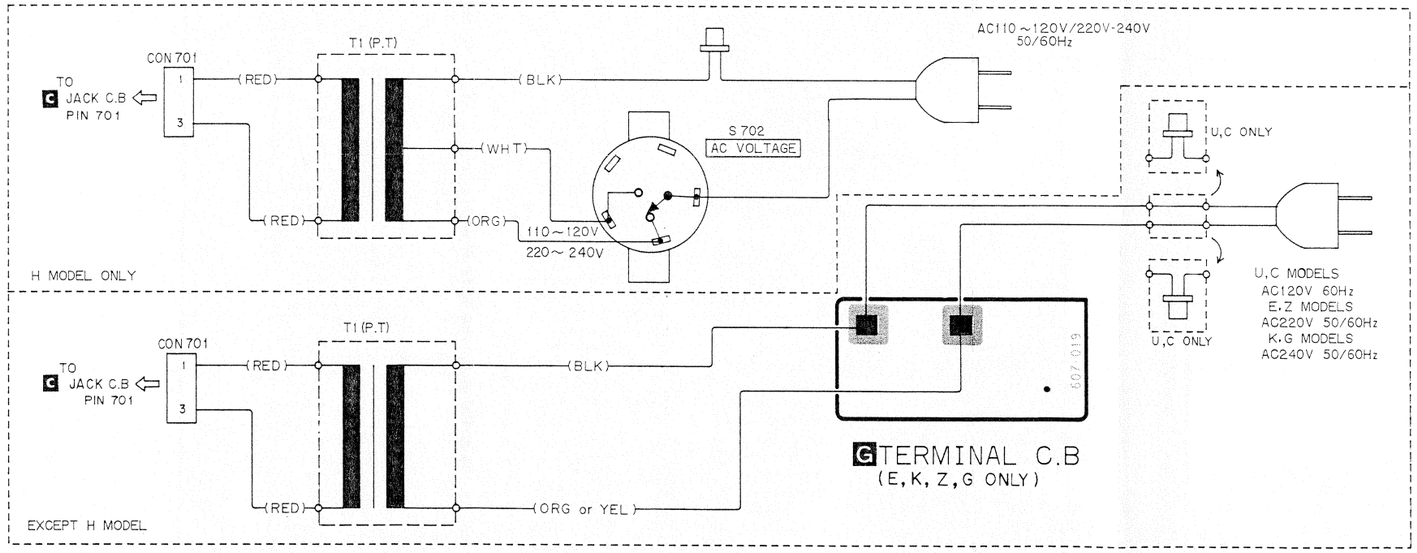
SCHEMATIC DIAGRAM



WIRING-1

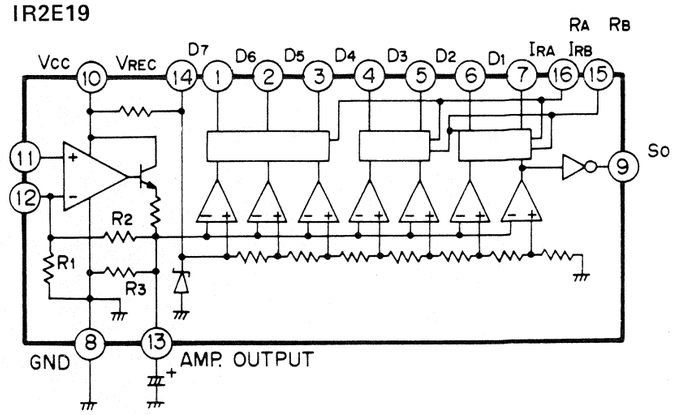

(Z ONLY)
P701-1.2
LINE IN/ REC
P701-3.4
LINE OUT/ PLAY
S703
INPUT SELECTOR
LINE ↔ DIN
J702
REC/PB
F DIN C.B
A MAIN C.B
Z ONLY
E PIN JACK C.B
C JACK C.B
D SWITCH C.B
EH HEAD
PRH HEAD
CHASSIS EARTH
S702
REC MUTE
S701
J701
PHONES
POWER
ON
STANDBY (OFF)
CON301
TO B MAIN C.B PIN301
② Azimuth Adjustment
Settings: • Test tape: TTA-317E
• Test point: TP ③ (R407, Lch)
TP ④ (R408, Rch)
• Adjustment location: Azimuth adjustment screw.
Method: Play back the 10kHz section of the test tape and adjust the screw for maximum output.
S107 (CrO2)
S106 (METAL)
S105 (F/R)
S104 (MUTE)
MOTOR M101
S101
S102
CON501
TO A MAIN C.B PIN501
① Tape Speed Adjustment
Setting: • Test tape: TTA-111
• Adjustment Location: SFR in motor
Method: Play back the test tape and adjust the SFR for frequency of 3,000 ± 15Hz.
IC401
IC501
IC204
IC205
IC201
IC203
IC202
PIN501
PIN502
PIN301
PIN701
B FRONT C.B





IC BLOCK DIAGRAM

IR2E19

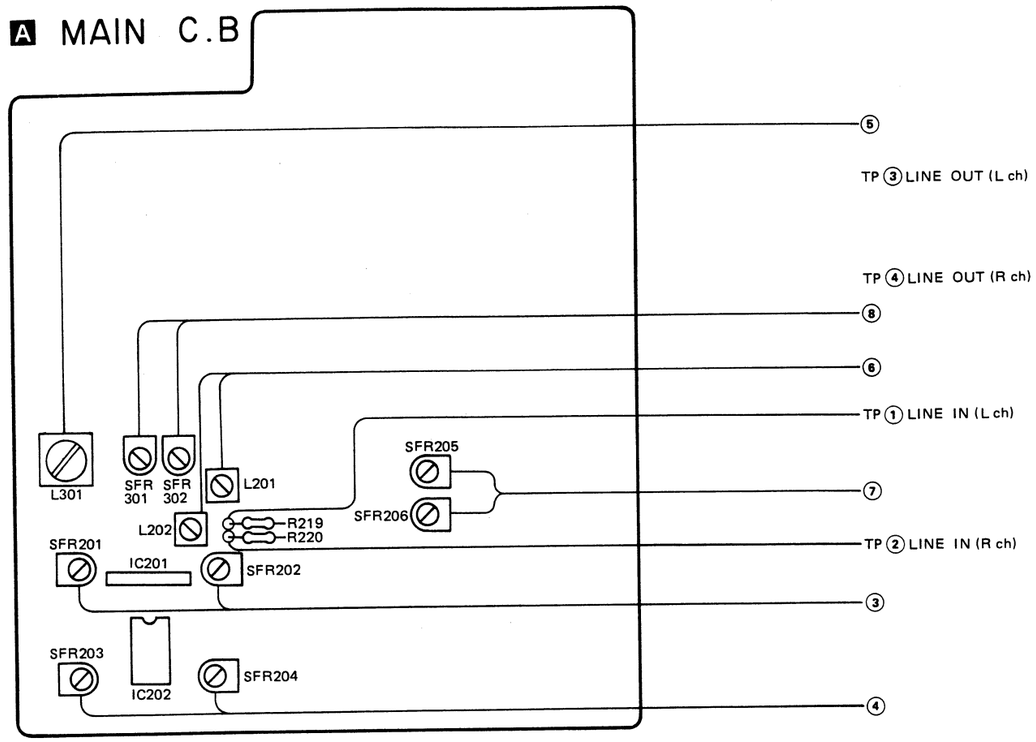


IC HA12088J

Terminal name

PIN NO.	1	2	3	4	5	6	7	8	9	10	11
NAMES	REC IN	GND	PB IN	REF	B/C/ OFF	IA OUT	NR IN	PB ⊖ IN	PB OUT	SS IN	SS OUT
PIN NO.	12	13	14	15	16	17	18	19	20	21	22
NAMES	HLS CCR	HLS HPF	HLS DET 1	HLS DET 2	AS	LLS CCR	LLS HPF	LLS DET 1	LLS DET 2	REC OUT	REC OUT
PIN NO.	23	24	25	26	27	28	29	30	31	32	33
NAMES	LLS DET 2	LLS DET 1	LLS HPF	LLS CCR	AS	HLS DET 2	HLS DET 1	HLS HPF	HLS CCR	SS OUT	SS IN
PIN NO.	34	35	36	37	38	39	40	41	42		
NAMES	PB OUT	PB ⊖ IN	NR IN	IA OUT	RP	PB IN	BIAS I	REC IN	Vcc		

ADJUSTMENT



③ Playback Sensitivity Adjustment

Settings:
- Test tape: TTA-161
- Test point: TP ③ TP ④
- Adjustment location: SFR201 (Lch) SFR202 (Rch)

Method: Play back the test tape and adjust so that output levels at TP ③ (Lch), and TP ④ (Rch) become 520mV ± 10mV.

④ Playback Frequency Response Adjustment

Settings:
- Test tape: TTA-317E
- Test point: TP ③ TP ④
- Adjustment location: SFR203 (Lch) SFR204 (Rch)

Method: Play back the test tape and adjust so that output difference between the 1kHz and 10kHz signals become +0.5 ± 0.5dB.

⑤ Bias Oscillation Frequency Adjustment

Settings:
- Test point : TP ① (R219, Lch) TP ② (R220, Rch)
- Adjustment location: L301

Metchod: Connect a frquency counter to the test point TP1, 2 and adjust the coil L30l for 85KHz ± 0.5KHz.

⑥ Bias Trap Coil Adjustment

Settings:
- Test tape: TTA-119J
- Test point: TP ① (R219, Lch) TP ② (R220, Rch)
- Adjustment location: L201 (Lch) L202 (Rch)

Method: Set the unit to the record mode and adjsut so that the recording bias leak voltages at TP ① and TP ② are minimum.

⑦ REC/PB Sensitivity Adjustment

Settings:
- Test tape: TTA-119J
- Test point: TP ③ TP ④
- Adjustment location: SFR205 (Lch) SFR206 (Rch)
- Input level: Supply a 1kHz (−30dB) signal and adjust so that the outputs at TP ③ (Lch) and TP ④ (Rch) become 35mV.

Method: Record and play back a 1kHz (0~0.5dB) signal and adjust so that the playback output level becomes the same.

⑧ REC/PB Frequency Response Adjustment

Settings:
- Test tape: TTA-119J, TTA-119G,
- Test point: TP ③ TP ④
- Adjustment location: SFR301 (Lch) SFR302 (Rch)
- Input level: Supply a 1KHz (−30dB), (−70dB, Z ONLY) signal and adjust so that the outputs at TP ③ (Lch) and TP ④ (Rch) become 35mV.

Method: Record and play back the 1kHz and 10kHz signals, and adjust so the output difference becomes −0.5+1dB (TTA-119J)

Rating:
- TTA-119MS 1 ± 2 dB.
- TTA-119G $1 \pm \frac{1}{1.5}$ dB.
- TTA-119D $-1 \pm \frac{1}{1.5}$ dB. (Z ONLY)

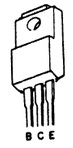
PRACTICAL SERVICE FIGURE

AD-F260/S10

Wow & Flutter: (RMS)	Less than 0.35%
Take-up torque:	30 ~ 60 g-cm (0.29 ~ 0.59 mN · m)
FF & rewind torque:	80 ~ 140 g-cm (0.8 ~ 1.4 mN · m)
Back tension:	2 ~ 6 g-cm (0.02 ~ 0.06 mN · m)
PB output:	EXCEPT Z 520 ± 20mV (TTA-161, LINE OUT) Z MODEL 520 ± 20mV (TTA-161, DIN OUT)
REC/PB output:	EXCEPT Z 0 ± 1dB (LINE OUT) Z MODEL 0 ± 1dB (DIN OUT)
REC/PB distortion:	Less than 2.5% (METAL) Less than 2.5% (CrO_2) Less than 2% (NORMAL)
Playback noise: (Unweighted)	Less than 2.5mV (NORMAL, DOLBY-NR OFF) Less than 2.0mV (CrO_2, DOLBY-NR OFF) Less than 2.0mV (METAL, DOLBY-NR C)
REC/PB SN ratio: (Unweighted)	More than 37dB (NORMAL, DOLBY-NR OFF) More than 45dB (NORMAL, DOLBY-NR B) More than 53dB (NORMAL, DOLBY-NR C)
Erasing ratio (125Hz):	More than 60dB
Bias frequency:	85kHz
Test tape:	METAL TTA-119MX CrO_2 TTA-119G (EXCEPT Z) TTA-119D (Z MODEL) NORMAL TTA-119J

2SA1015
2SC945
2SC1815
2SC2001
2SC2240
2SD1302

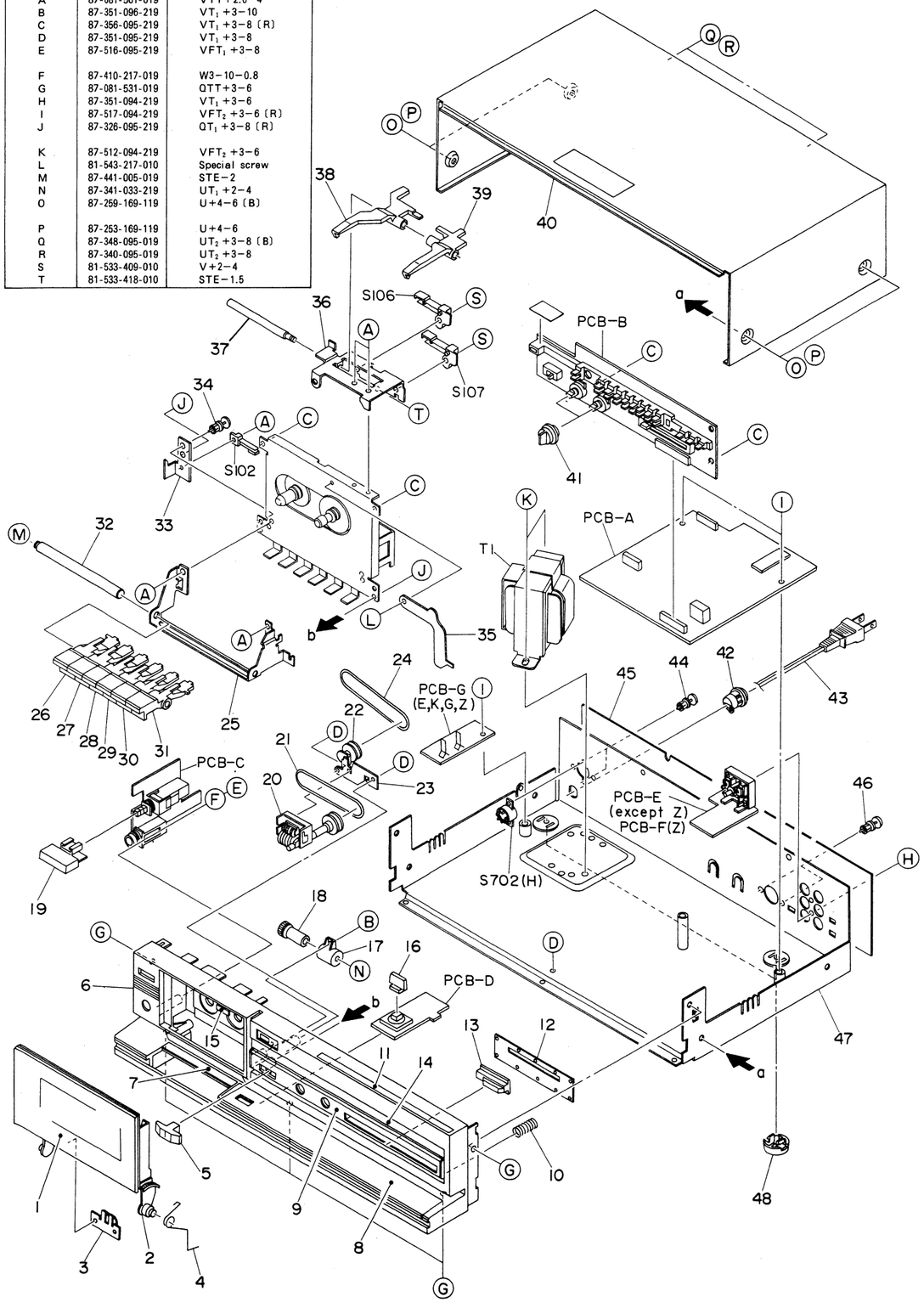
2SK373



2SD1406

EXPLODED VIEW-1

REF.NO.	PART NO.	DESCRIPTION
A	87-081-501-019	VTT+2.6-4
B	87-351-096-219	VT_1 +3-10
C	87-356-095-219	VT_1 +3-8 (R)
D	87-351-095-219	VT_1 +3-8
E	87-516-095-219	VFT_1 +3-8
F	87-410-217-019	W3-10-0.8
G	87-081-531-019	QTT+3-6
H	87-351-094-219	VT_1 +3-6
I	87-517-094-219	VFT_2 +3-6 (R)
J	87-326-095-219	QT_1 +3-8 (R)
K	87-512-094-219	VFT_2 +3-6
L	81-543-217-010	Special screw
M	87-441-005-019	STE-2
N	87-341-033-219	UT_1 +2-4
O	87-259-169-119	U+4-6 (B)
P	87-253-169-119	U+4-6
Q	87-348-095-019	UT_2 +3-8 (B)
R	87-340-095-019	UT_2 +3-8
S	81-533-409-010	V+2-4
T	81-533-418-010	STE-1.5



MECHANICAL PARTS LIST

PARTS NO. CHANGED TO	REF.NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	1-1	★82-127-009-010	WINDOW, CASSETTE	※	1
	1-2	82-126-010-010	CASSETTE BOX L		1
	1-3	★81-558-231-010	P-SPRING, CASSETTE C		1
	1-4	★82-127-224-010	T-SPRING, EJECT	※	1
	1-5	82-148-011-010	SLIDE-KNOB, DOLBY BM		1
	1-6	★82-127-001-019	CABINET, FRONT (B) (EXCEPT U)	※	1
		★82-127-010-019	CABINET, FRONT (B) (U only)	※	1
		★82-127-030-019	CABINET, FRONT (S) (E, Z only)	※	1
	1-7	★82-127-008-010	NAME PLATE, PUSH-KEY	※	1
	1-8	★82-127-005-019	PANEL, CONTROL, (B) (EXCEPT U)	※	1
		★82-127-011-019	PANEL, CONTROL, (B) (U only)	※	1
		★82-127-032-019	PANEL, CONTROL, (S) (E, Z only)	※	1
	1-9	★82-127-006-019	PANEL, FRONT (B)	※	1
		★82-127-033-019	PANEL, FRONT (S)	※	1
	1-10	★82-127-223-010	C-SPRING, EARTH	※	1
	1-11	---	SHEET, BIAS EX		1
	1-12	★82-148-027-010	PLATE, REC		1
	1-13	★82-148-009-010	KNOB, REC BM		1
	1-14	★82-127-007-010	WINDOW, METER	※	1
	1-15	★82-148-030-019	LABEL, TAPE IND		1
	1-16	★82-127-004-010	KNOB, REC MUTE	※	1
	1-17	★81-546-211-110	HOLDER OIL-DAMP Ass'y		1
	1-18	81-546-210-010	GEAR, OIL-DAMP		1
	1-19	★82-188-012-010	KNOB, POWER (B)		1
		★82-134-022-010	KNOB, POWER (S)		1
	1-20	★87-040-192-010	COUNTER		1
	1-21	82-422-279-010	BELT, COUNTER		1
	1-22	82-146-202-010	PULLEY		1
	1-23	---	HOLDER COUNTER Ass'y		1
	1-24	82-127-212-010	RUBBER BELT COUNTER	※	1
	1-25	---	HOLDER, PUSH-KEY		1
	1-26	★82-127-012-010	PUSH-KEY, REC	※	1
	1-27	★82-127-013-010	PUSH-KEY, PLAY	※	1
	1-28	★82-127-014-010	PUSH-KEY, REW	※	1
	1-29	★82-127-015-010	PUSH-KEY, FF	※	1
	1-30	★82-127-016-010	PUSH-KEY, STOP	※	1
	1-31	★82-127-017-010	PUSH-KEY, PAUSE	※	1
	1-32	---	SHAFT, PUSH-KEY		1
	1-33	---	HOLDER, LEAF SWITCH		1
	1-34	★87-084-080-010	NYLON RIVET 3-3.5		1
	1-35	★81-543-215-010	LEVER, EJECT		1
	1-36	★S1-820-160-300	DETECTION LEVER ANGLE		1
	1-37	★S1-820-160-400	SHAFT, DETECTION LEVER		1
	1-38	★S1-820-160-100	DETECTION LEVER, METAL		1
	1-39	★S1-820-160-200	DETECTION LEVER, CrO_2		1

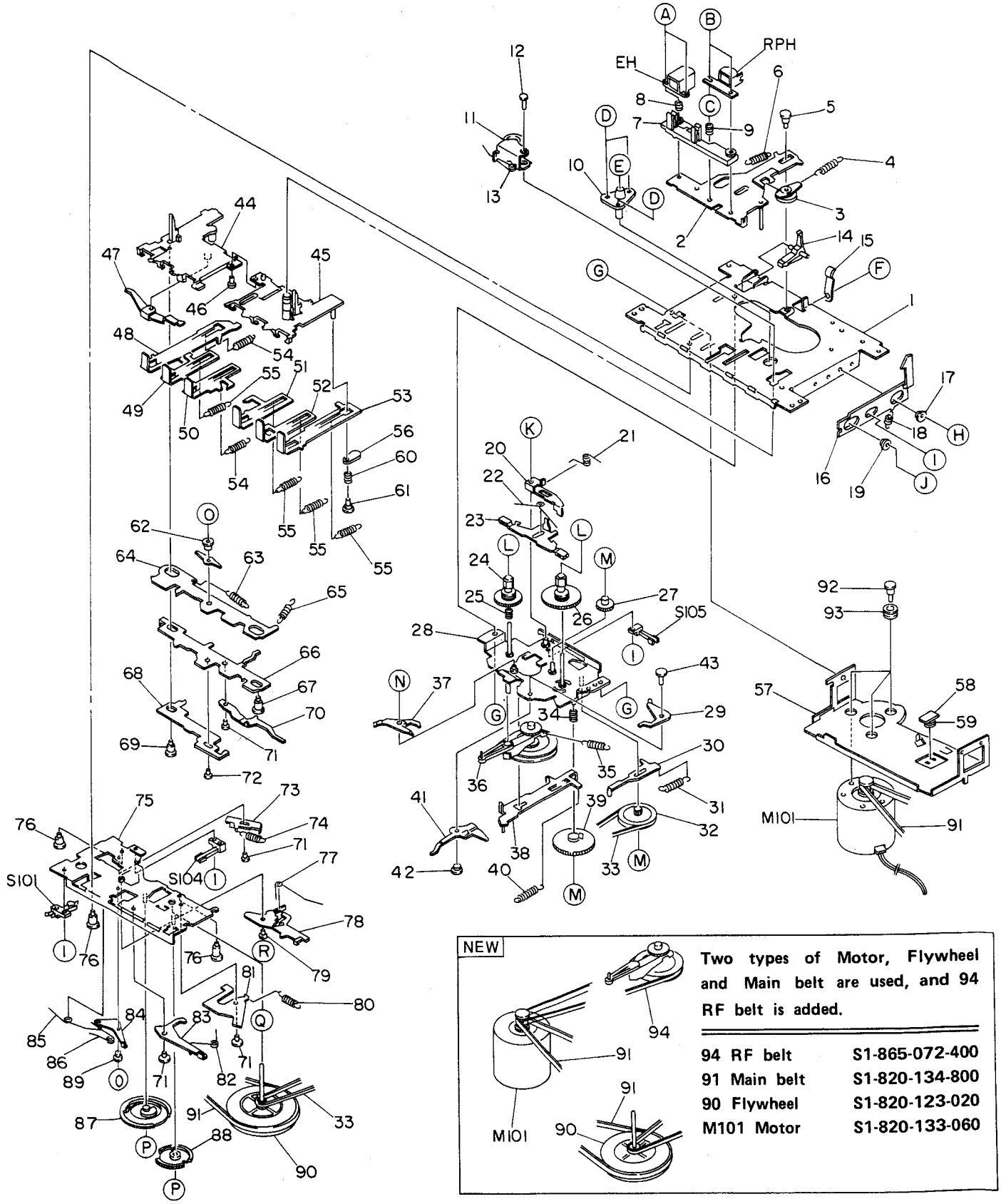
PARTS NO. CHANGED TO	REF.NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	1-40	★82-127-002-010	CABINET, STEEL (B)	※	1
		★82-127-031-010	CABINET, STEEL (S)	※	1
	1-41	82-127-018-010	KNOB, BIAS	※	2
	1-42	★87-085-184-010	CORD BUSHING (H, U, C only)		1
		★87-085-185-010	CORD BUSHING (E, K, G, Z only)		1
	1-43	★87-034-732-010	AC POWER CORD (H only)		1
		★87-034-578-010	AC POWER CORD (U, C only)		1
		★82-187-797-019	AC POWER CORD (E, Z only)		1
		★82-187-796-019	AC POWER CORD (K only)		1
		★82-187-795-019	AC POWER CORD (G only)		1
	1-44	★87-085-090-010	NYLON RIVET φ3-6.5 (H only)		1
	1-45	---	NAME PLATE, JACK		1
	1-46	★87-048-063-010	NYLON RIVET 3-5.5 (Z only)		2
	1-47	---	AMP. CHASSIS Ass'y		1
	1-48	★87-085-186-010	FOOT		2

■ACCESSORIES/PACKAGE LIST

PARTS NO. CHANGED TO	REF.NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	1	★82-127-904-019	INSTRUCTION BOOKLET H	※	1
	2	★87-034-978-010	CORD CW-254 BSK		1
	3	★87-049-137-019	PLUG SIEMENS		1

EXPLODED VIEW-2

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
A	81-533-401-010	V+2-8	G	81-533-406-010	VS+2-4	M	81-504-264-010	PW1.2-3-0.25 (Cut)
B	81-504-255-010	⊕⊖Screw M2-7	H	81-504-259-010	V+2.6-5	N	81-518-332-010	STE-1.2
C	81-533-403-010	W2.1-5-0.2	I	81-533-409-010	V+2-4	O	86-522-343-010	Q+2-2.5
D	81-533-425-010	Q+2-3	J	81-533-410-010	VS+2-6	P	81-533-416-010	STE-2.0
E	81-533-422-010	NW2-5-0.5	K	81-533-418-010	STE-1.5	Q	86-521-287-010	PW2.2-3.8-0.4
F	S9-200-000-000	Special screw VTT+2.6-3	L	82-138-248-010	STE-1.5 (Special)	R	81-518-334-010	VS+2.6-6



Two types of Motor, Flywheel and Main belt are used, and 94 RF belt is added.

94 RF belt	S1-865-072-400
91 Main belt	S1-820-134-800
90 Flywheel	S1-820-123-020
M101 Motor	S1-820-133-060

PARTS NO. CHANGED TO	REF.NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	2-1	---	CHASSIS		1
	2-2	★81-533-303-010	HEAD PANEL Ass'y	CA-W50	1
	2-3	★81-533-306-010	TAKE-UP ROLLER SHAFT BEARING Ass'y	CA-W50	1
	2-4	★86-522-277-010	SPRING, TAKE-UP ROLLER SHAFT BEARING		1
	2-5	★81-544-304-010	COLLAR SCREW	CS-W550	1
	2-6	★81-533-305-010	SPRING, HEAD PANEL	CA-W50	1
	2-7	★81-533-302-010	HEAD BASE	CA-W50	1
	2-8	★S9-400-312-000	SPRING, HEAD		1
	2-9	★81-533-301-010	SPRING, HEAD	CA-W50	1
	2-10	★81-533-313-010	METAL, FLYWHEEL	CA-W50	1
	2-11	S1-820-043-060	PINCH ROLLER ARM Ass'y		1
	2-12	★81-533-308-010	STOPPER, ACTUATING PLATE	CA-W50	1
	2-13	★S1-820-040-300	SPRING, PINCH ROLLER		1
	2-14	★81-504-202-210	REC SAFETY LEVER		1
	2-15	★S1-820-010-400	SPRING, PACK BEARING		1
	2-16	★81-533-314-010	EJECT SLIDE LEVER	CA-W50	1
	2-17	★81-533-315-010	COLLAR	CA-W50	1
	2-18	★81-518-321-010	SPRING, EH BASE	CS-W330	1
	2-19	★81-533-317-010	COLLAR	CA-W50	1
	2-20	★81-533-318-010	CONTROL LEVER	CA-W50	1
	2-21	★81-533-319-010	SPRING, CONTROL LEVER	CA-W50	1
	2-22	★82-138-234-010	SPRING, BRAKE	FX-W20	1
	2-23	★82-138-235-010	BRAKE ARM Ass'y	FX-W20	1
	2-24	S1-800-063-020	SUPPLY REEL Ass'y		1
	2-25	★S1-820-061-300	SPRING, BACK TENSION		1
	2-26	S1-820-063-140	TAKE-UP REEL Ass'y		1
	2-27	81-504-216-010	GEAR, FF		1
	2-28	★81-533-329-010	REEL BASE Ass'y	CA-W50	1
	2-29	★81-533-330-010	T.ROLLER KICK LEVER	CA-W50	1
	2-30	★81-533-332-010	DETECTION LEVER	CA-W50	1
	2-31	★81-533-333-010	SPRING, DETECTION LEVER	CA-W50	1
	2-32	★81-533-334-010	PULLEY	CA-W50	1
	2-33	81-533-335-010	FULL AUTO BELT	CA-W50	1
	2-34	★S1-820-082-100	SPRING, CAM GEAR		1
	2-35	★S1-820-070-800	SPRING, RF CLUTCH ARM		1
	2-36	★81-533-338-010	RF CLUTCH ARM Ass'y	CA-W50	1
	2-37	★81-533-393-010	KICK LEVER	CA-W50	1
	2-38	★81-533-340-010	RF SLIDE LEVER Ass'y	CA-W50	1
	2-39	★81-533-336-010	CAM GEAR	CA-W50	1
	2-40	★82-138-247-010	SPRING, RF SLIDE LEVER	FX-W20	1
	2-41	★81-533-341-010	AUTO LEVER	CA-W50	1
	2-42	★81-533-342-010	COLLAR, AUTO LEVER	CA-W50	1
	2-43	★81-533-404-010	COLLAR SCREW	CA-W50	1
	2-44	★81-533-345-010	BUTTON BASE R	CA-W50	1
	2-45	★81-533-343-010	BUTTON BASE L	CA-W50	1
	2-46	★81-533-344-010	COLLAR SCREW	CA-W50	1
	2-47	★81-504-202-010	REC STOPPER		1
	2-48	★81-533-283-010	BUTTON LEVER, REC	CA-W50	1

PARTS NO. CHANGED TO	REF.NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	2-49	★S1-820-107-700	BUTTON LEVER, PLAY		1
	2-50	★81-533-349-010	BUTTON LEVER, RWD	CA-W50	1
	2-51	★81-533-350-010	BUTTON LEVER, FF	CA-W50	1
	2-52	★81-533-351-010	BUTTON LEVER, STOP	CA-W50	1
	2-53	★81-533-352-010	PAUSE BUTTON LEVER Ass'y	CA-W50	1
	2-54	★81-533-353-010	SPRING, BUTTON LEVER	CA-W50	2
	2-55	★81-504-240-010	SPRING, BUTTON LEVER		4
	2-56	★81-533-355-010	PAUSE LEVER	CA-W50	1
	2-57	---	FM BEARING PLATE		1
	2-58	★81-533-390-010	FL PLATE HOLDER	CA-W50	1
	2-59	★81-533-391-010	DAMPER SPRING	CA-W50	1
	2-60	★81-533-426-010	SPRING, PAUSE LEVER	CA-W50	1
	2-61	★81-533-356-010	P.STOPPER	CA-W50	1
	2-62	★82-138-242-010	COLLAR	FX-W20	1
	2-63	★81-533-359-010	SPRING, SWITCH ACTUATING PLATE	CA-W50	1
	2-64	★81-533-360-010	PUSH-BUTTON, ACTUATING PLATE	CA-W50	1
	2-65	★81-533-361-010	SPRING, PUSH-BUTTON	CA-W50	1
	2-66	★81-533-362-010	SWITCH ACTUATING PLATE	CA-W50	1
	2-67	★81-533-363-010	COLLAR SCREW	CA-W50	1
	2-68	---	T.P.S LEVER		1
	2-69	★81-533-366-010	COLLAR SCREW	CA-W50	1
	2-70	★81-533-364-010	E.KICK LEVER	CA-W50	1
	2-71	★81-533-331-010	COLLAR SCREW	CA-W50	4
	2-72	★81-533-407-010	COLLAR SCREW	CA-W50	1
	2-73	★81-533-367-010	REC ACTUATING PLATE	CA-W50	1
	2-74	★81-533-368-010	SPRING, AUTO LEVER ANGLE	CA-W50	1
	2-75	★S1-820-115-110	SUB CHASSIS Ass'y		1
	2-76	★81-533-392-010	COLLAR SCREW	CA-W50	3
	2-77	★81-533-387-010	SPRING, LIFT ARM	CA-W50	1
	2-78	★S1-820-115-050	LIFT ARM Ass'y		1
	2-79	★81-533-385-010	LIFT ARM COLLAR	CA-W50	1
	2-80	★81-533-384-010	SPRING, PAUSE ARM	CA-W50	1
	2-81	★81-533-383-010	PAUSE ARM Ass'y	CA-W50	1
	2-82	★81-533-382-010	SPRING, P.TRIGGER ARM	CA-W50	1
	2-83	★81-533-381-010	P.TRIGGER ARM Ass'y	CA-W50	1
	2-84	★S1-820-115-210	M.TRIGGER ARM Ass'y		1
	2-85	★81-533-374-010	SPRING, M.GEAR	CA-W50	1
	2-86	★81-533-375-010	SPRING, M.TRIGGER ARM	CA-W50	1
	2-87	S1-820-116-800	M.GEAR		1
	2-88	81-533-378-010	P.GEAR	CA-W50	1
	2-89	★81-533-395-010	COLLAR	CA-W50	1
	2-90	★S1-820-123-110	FLYWHEEL Ass'y		1
	2-91	S1-820-134-500	MAIN BELT		1
	2-92	★81-533-389-010	COLLAR SCREW	CA-W50	3
	2-93	★81-533-388-010	MOTOR RUBBER	CA-W50	3